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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/751,153	12/31/2003	Mark Fine	134149	1808
35114 7590 02/27/2008 ALCATEL LUCENT (FKA ALCATEL INTERNETWORKING, INC.) INTELLECTUAL PROPERTY & STANDARDS 3400 W. PLANO PARKWAY, MS LEGL2 PLANO, TX 75075			EXAMINER DUONG, FRANK	
			ART UNIT 2616	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/751,153	Applicant(s) FINE ET AL.	
	Examiner Frank Duong	Art Unit 2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 December 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This Office Action is a response to communications dated 12/07/07. Claims 1-15 are pending in the application.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 1-15 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. There is no support for newly added limitation of *"the first destination-based forwarding router being unable to make multicast routing decisions based on the multicast source address,"* in the original specification for the following rationales.

In the specification, paragraphs [0020]-[0027], in reference to Figures 1-4, it is disclosed a first example of multicast network 100 having a destination-based forwarding (DBF) router X 105 unable to make multicast routing decisions based on the multicast source address leading to a multicast client C1 120 receiving duplicate packets resulting routing loops that waste network bandwidth. In this example, the conventional or standard Distance Vector Multicast Routing Protocol (DVMRP) is used.

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Therefore, it is considered the prior art. In addition, there is no enhanced DVMRP (EDVMRP) is described or implemented in the above scenario.

In the specification, paragraphs [0028]-[0035], in reference to Figures 1 and 5-7, it is disclosed a second example of multicast network 100 having DBF router X 105 implementing EDVMRP described in the process steps of Fig. 5. The DBF router X 105 of this scenario is different from that described in the first example. Therefore, this is considered the Applicants' invention. However, there is no evidence of support in the specification to equate the DBF router X 105 of the first scenario is equivalent or the same as that of the second example. Thus, amending the claims to include the limitation of "*the first destination-based forwarding router being unable to make multicast routing decisions based on the multicast source address,*" a conventional or well-known limitation, the Applicants have inadvertently introduced new matters not support by the original specification.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-15 are rejected under 35 U.S.C. 102(b) as being anticipated by Pusateri (Distance Vector Multicast Routing Protocol, Internet Draft, pages 1-62, August 1998) (hereinafter "Pusateri").

(**Note:** The newly added limitation of *“the first destination-based forwarding router being unable to make multicast routing decisions based on the multicast source address”* introduced in the preamble of base claims 1, 7, 9 and 11 are not given patentable weight because of the problem discussed above. In addition, it fails to breath life and meaning to the body of the claims)

Regarding **claim 1**, in accordance with Pusateri reference entirety, Pusateri discloses an enhanced Distance Vector Multicast Routing Protocol (DVMRP) method for regulating one or more multicast streams in a first destination-based forwarding router (see *page 1; Abstract and thereafter*), comprising the steps of:

(a) transmitting a DVMRP route report to a first branch interface detected (*page 19, section 3.4.5, Sending Route Reports, it is disclosed “all of the active routes must be advertised over all interfaces with neighbors present each route report interval”*); and

(b) for each new branch interface detected: (i) transmitting, to each branch interface previously detected, a flash update for preventing one or more neighbor multicast routers from expressing dependency on the first destination-based forwarding router (*page 19, section 3.4.5, Sending Route Reports, it is disclosed “Flash updates reduce the chances of routing loops and black holes occurring when source networks become unreachable through a particular path. Flash updates need only contain the source networks that have changed;”* and (ii) transmitting, to the new branch interface, a restricted route report for preventing one or more neighbor multicast routers from expressing dependency on the first destination-based forwarding router (*page 19,*

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section 3.4.5, Sending Route Reports, it is also disclosed "When a router sees its own address in a neighbor probe packet for the first time, it should send a unicast copy of its entire routing table to the neighbor to reduce start-up time. Reports should not be sent to a neighbor until a router has seen its own address in the neighbors Probe router list.")

Regarding **claim 2**, in addition to features recited in base claim 1 (see rationales discussed above), Pusateri also discloses wherein the DVMRP route report comprises routes accessible through one or more interfaces of the first destination-based forwarding router enabled with the enhanced DVMRP method (see page 19, section 3.4.5, *Sending Route Reports pertaining the discussion of unreachable through particular path and Route Dependencies discussed on page 18, section 3.4.4 and thereafter*).

Regarding **claim 3**, in addition to features recited in base claim 1 (see rationales discussed above), Pusateri also discloses wherein the restricted route report omits reference to routes accessible through each branch interface previously detected (see page 19, *Sending Route Reports pertaining neighbors Probe router list*).

Regarding **claim 4**, in addition to features recited in base claim 3 (see rationales discussed above), Pusateri also discloses wherein the restricted route report consists of routes accessible through the one or more leaf interfaces of the first destination-based forwarding router (see page 20, section B, *discussion pertaining if the route already exists*).

Regarding **claim 5**, in addition to features recited in base claim 1 (see rationales discussed above), Pusateri also discloses wherein the flash update comprises an

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unreachable metric for the new branch interface (*"metric" and "adjusted metric" are discussed on page 19, section 3.4.6 and thereafter*).

Regarding **claim 6**, in addition to features recited in base claim 5 (see rationales discussed above), Pusateri also discloses wherein the unreachable metric is a cost metric having a value of 32 (*Route Metrics to include infinity or 32 are discussed on page 18, section 3.4.3 and thereafter*).

Regarding **claim 7**, in accordance with Pusateri reference entirety, Pusateri discloses an enhanced distance vector multicast routing protocol (DVMRP) method for regulating multicast streams in a destination-based forwarding router, comprising the steps of:

(a) detecting a plurality of branch interfaces, wherein each branch interface is operably coupled to one or more neighbor multicast routers (*page 19, section 3.4.5, Sending Route Reports, it is disclosed "all of the active routes must be advertised over all interfaces with neighbors present each route report interval"*); and

(b) transmitting one or more restricted route reports to at least one of the plurality of branch interfaces, wherein at least one of the one or more restricted route reports omits one or more branch interfaces (*page 19, section 3.4.5, Sending Route Reports, it is disclosed "Flash updates reduce the chances of routing loops and black holes occurring when source networks become unreachable through a particular path. Flash updates need only contain the source networks that have changed;"* and

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wherein at least one of the one or more neighbor multicast routers are prevented from expressing dependency on branch interfaces of the destination-based forwarding router (page 19, section 3.4.5, *Sending Route Reports*, it is also disclosed "When a router sees its own address in a neighbor probe packet for the first time, it should send a unicast copy of its entire routing table to the neighbor to reduce start-up time. Reports should not be sent to a neighbor until a router has seen its own address in the neighbors Probe router list.")

Regarding **claim 8**, in addition to features recited in base claim 7 (see rationales discussed above), Pusateri also discloses wherein the method further includes the step of transmitting, to at least one of the plurality of branch interfaces, a flash update for preventing at least one of the one or more neighbor multicast routers from expressing dependency on branch interfaces of the destination-based forwarding router (see page 20, section B, *discussion pertaining if the route already exists*).

(Note: Claims 9-10 below calls for a router having all limitations mirrored the method step of claims 1 and 5. It is therefore anticipated by the same rationales applied to claims 1 and 5 discussed above and as followings)

Regarding **claim 9**, in accordance with Pusateri reference entirety, Pusateri discloses an enhanced DVMRP router for regulating one or more multicast streams in a first destination-based forwarding router, enhanced DVMRP router for:

(a) transmitting, to a first branch interface detected, a DVMRP route report

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comprising routes accessible through one or more enhanced-DVMRP interfaces of the first destination-based forwarding router (*page 19, section 3.4.5, Sending Route Reports, it is disclosed "all of the active routes must be advertised over all interfaces with neighbors present each route report interval"*); and

(b) for each new branch interface detected: (i) transmitting, to each branch interface previously detected, a flash update comprising an unreachable metric for the new branch interface (*page 19, section 3.4.5, Sending Route Reports, it is disclosed "Flash updates reduce the chances of routing loops and black holes occurring when source networks become unreachable through a particular path. Flash updates need only contain the source networks that have changed,"* and (ii) transmitting, to the new branch interface, a restricted route report omitting reference to routes accessible through each branch interface previously detected (*page 19, section 3.4.5, Sending Route Reports, it is also disclosed "When a router sees its own address in a neighbor probe packet for the first time, it should send a unicast copy of its entire routing table to the neighbor to reduce start-up time. Reports should not be sent to a neighbor until a router has seen its own address in the neighbors Probe router list."*)

Regarding **claim 10**, in addition to features recited in base claim 9 (see rationales discussed above), Pusateri also discloses wherein the flash update comprises an unreachable metric for the new branch interface ("*metric" and "adjusted metric" are discussed on page 19, section 3.4.6 and thereafter*").

(Note: Claims 11-15 below calls for a router having all limitations mirrored the method step of claims 1- 5. It is therefore anticipated by the same rationales applied to claims 1-5 discussed above and as followings)

Regarding **claim 11**, in accordance with Pusateri reference entirety, Pusateri discloses a computer-readable medium containing instructions for regulating one or more multicast streams in a first destination-based forwarding router (see page 1; *Abstract and thereafter*), comprising the steps of:

(a) transmitting a distance vector multicast routing protocol (DVMRP) route report to a first branch interface detected (page 19, section 3.4.5, *Sending Route Reports*, it is disclosed *"all of the active routes must be advertised over all interfaces with neighbors present each route report interval"*); and

(b) for each new branch interface detected: (i) transmitting, to each branch interface previously detected, a flash update for preventing one or more neighbor multicast routers from expressing dependency on the first destination-based forwarding router (page 19, section 3.4.5, *Sending Route Reports*, it is disclosed *"Flash updates reduce the chances of routing loops and black holes occurring when source networks become unreachable through a particular path. Flash updates need only contain the source networks that have changed;"* and (ii) transmitting, to the new branch interface, a restricted route report for preventing one or more neighbor multicast routers from expressing dependency on the first destination-based forwarding router (page 19, section 3.4.5, *Sending Route Reports*, it is also disclosed *"When a router sees its own*

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address in a neighbor probe packet for the first time, it should send a unicast copy of its entire routing table to the neighbor to reduce start-up time. Reports should not be sent to a neighbor until a router has seen its own address in the neighbors Probe router list.”)

Regarding **claim 12**, in addition to features recited in base claim 11 (see rationales discussed above), Pusateri also discloses wherein the DVMRP route report comprises routes accessible through one or more interfaces of the first destination-based forwarding router enabled with the enhanced DVMRP method (see page 19, section 3.4.5, *Sending Route Reports pertaining the discussion of unreachable through particular path and Route Dependencies discussed on page 18, section 3.4.4 and thereafter*).

Regarding **claim 13**, in addition to features recited in base claim 11 (see rationales discussed above), Pusateri also discloses wherein the restricted route report omits reference to routes accessible through each branch interface previously detected (see page 19, *Sending Route Reports pertaining neighbors Probe router list*).

Regarding **claim 14**, in addition to features recited in base claim 13 (see rationales discussed above), Pusateri also discloses wherein the restricted route report consists of routes accessible through the one or more leaf interfaces of the first destination-based forwarding router (see page 20, section B, *discussion pertaining if the route already exists*).

Regarding **claim 15**, in addition to features recited in base claim 11 (see rationales discussed above), Pusateri also discloses wherein the flash update

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comprises an unreachable metric for the new branch interface ("*metric*" and "*adjusted metric*" are discussed on page 19, section 3.4.6 and thereafter).

Response to Arguments

4. Applicant's arguments filed 12/07/07 have been fully considered but they are not persuasive because they direct to limitations not support by the original. In addition, the disputed limitation of "*the first destination-based forwarding router being unable to make multicast routing decisions based on the multicast source address*" has not been given patentable weight because the recitation occurs in the preamble. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951).

Due to the response fails to place the instant application in a favorable condition for allowance, the rejection is maintained.

Conclusion

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action.. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Frank Duong whose telephone number is 571-272-3164. The examiner can normally be reached on 7:00AM-3:30PM, Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynn D. Feild can be reached on 571-272-2092. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Frank Duong/
Primary Examiner, Art Unit 2616
February 21, 2008